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Parent Guide

To Provincial Achievement Testing

Grade 9

Achievement tests?
We students will help you
find out all about them!
Just follow us...

Alberta
EDUCATION

Information About the Provincial Achievement Testing Program

In May-June, your son or daughter in Grade 9 will write provincial achievement tests in mathematics, science, social studies, and language arts. Students in grades 3 and 6 will also write achievement tests.

Answers to questions that parents often ask are given below.

What are the achievement tests ?

Grade 3 students write tests in mathematics and language arts. Grades 6 and 9 students write tests in language arts, mathematics, science, and social studies. These are provincial tests. They are based on what students are expected to know and be able to do, and how well. These are the provincial standards.

Who writes the tests?

All Alberta students in grades 3, 6, and 9 are expected to write the provincial tests for their grade levels. Students in French programs write English and French language arts tests and the French forms of the other tests. A small number of students in special circumstances, who would be unable to respond at all to the tests or who would be harmed by the testing, may be excused by a superintendent. Special provisions are made for students with physical disabilities and learning disabilities who need assistance to write the tests.

What is the purpose of the achievement tests?

The tests are designed to indicate how well Alberta students are meeting provincial standards. They are intended to support teachers in planning instruction and to inform Albertans about student achievement in the province.

What are achievement tests used for?

Each school and jurisdiction receives a detailed report on its students' results. School staff, in consultation with their school council, look at the school report to see where their students did well and where learning could be improved. The principal, teachers, parents, and the community look at these results in relation to past results, along with school and district assessments and other information about students and programs. They use this information to improve learning opportunities for their students.

Similarly, the school board and the superintendent look at the district report to see how district-wide programs can be improved for students. Alberta Education looks at the provincial results to see if changes are needed in provincial programs or policies.

In this way, everyone works together to help all students learn to their potential.

Do the provincial achievement tests test everything?

No single test can assess everything. Such things as laboratory skills, oral language expression and many other learnings are best evaluated by the classroom teacher. The clearest picture of students' growth and development is gained when a wide variety of assessment information is considered.

How are achievement tests developed?

Alberta Education and classroom teachers, in cooperation with school districts, work together to develop the provincial achievement tests. All questions are field tested with grade 3, 6, or 9 students before being used on provincial tests. Questions have to be clear to students, or we don't include the questions.

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How long do these tests take to write?

The Grade 3 language arts test has two parts: reading and writing. Each takes one hour. The multiple-choice test for mathematics also takes about one hour.

In grades 6 and 9, the written section of the language arts test takes about two hours, and the reading section one and one-half hours. Multiple-choice tests in each of the other three subject areas also take about one and one-half hours.

Suitable breaks are provided for students. Also, tests are scheduled over several days so that only one test is written in a day.

When are the tests written?

The written part of the language arts test is scheduled for late May and the rest of the tests in the last half of June.

How are the tests marked?

Teachers are provided with scoring guides and samples of student work that illustrate the standards. This enables teachers to mark their students' tests and use the results as part of students' final grades.

Provincial marking is done centrally. Multiple-choice questions are machine-scored. Teachers meet in July to mark the written part of the language arts test. Alberta Education staff provide training to the teachers and carry out regular reliability checks during central marking.

Do the achievement tests affect report card marks?

The teacher is in charge of classroom assessment. Each individual teacher decides whether to mark the tests and use the results in arriving at final grades for the child.

The teacher may use the mark for a whole test or part of the test along with other assessment information. If teachers use the mark from an entire test, the results will reflect the provincial standard best.

How can I get the achievement test results?

We prepare a chart, or profile, showing each child's performance in relation to provincial standards on each test. We send two copies to the school that the child will be attending in September. One copy is for the student's record and the other is for sharing with parents. If we do not know which school a student will be attending, we send the profiles to the school where the child wrote the achievement test.

Detailed reports are provided for each school and jurisdiction. These reports include the provincial results.

What can I do to help my child?

Frequent reading both in and out of school is critical to children's success in all subject areas. When children read broadly and often, they develop a base that is necessary for future learning because they experience new vocabulary and sentence structures, search out answers to questions, solve problems and gain information; and they develop valuable thinking skills as they work to get meaning from their reading. All of these are essential for success in school.

It is important to remember that much learning happens quite naturally within the home environment. Families talk about things, go places and do things together, play games, make plans and deal with home situations. Listening to your child, showing enthusiasm and providing encouragement goes a long way to building self-confidence.

It is most important to be in communication with your child's teacher. By talking with the teacher, you can gain an understanding of what is expected of your child. You can also get more specific tips about ways to support your child's learning.

More questions?

If you have additional questions or comments about achievement testing, please speak with your child's teacher or school principal, or contact

The Achievement
Testing Team
Student Evaluation
Branch Alberta Education
(403)427-0010

To be connected toll-free in Alberta, dial 310-0000.

Provincial Standards and Sample Questions

The following is a short list of what students should know in mathematics by the end of Grade 9. You can get a more complete description through discussion of your child's educational program with his/her teacher.

Below are some sample questions. The questions give you a first-hand look at what provincial achievement tests are about. We have reduced the actual print size and changed the format to fit the limited space available in the Parent Guide. The tests are much friendlier for students. The answers to the questions are on page 8.

Grade 9 Mathematics Standards

Students are expected to be able to:

- use the rational number system (numbers that can be written as fractions) to solve problems
- perform calculations involving rational numbers in both their fractional and decimal forms, using estimation, paper and pencil, calculators and computers when appropriate
- use measurements, coordinate geometry, pattern recognition, and reasoning to solve problems in a variety of contexts
- describe, illustrate, and analyze experimental results expressed in two variables, using technology (calculators and computers) as required
- use trigonometric ratios (sine, cosine, and tangent) to solve problems involving right triangles
- add, subtract, multiply, divide, factor, and model polynomial expressions

Grade 9 Mathematics Sample Questions

Read and then answer the questions below.

Use the following information to answer question 1.

When a load (L) is hung on a spring, the spring stretches. The amount the spring stretches is called the extension (E).

L (kg)	0	1.2	2.0	3.2	4.8
E (cm)	0	0.9	1.5	2.4	3.6

1. Which formula below shows the relationship between extension and load?

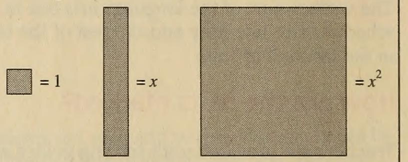
A. $E = \frac{4}{3}L$ B. $E = L - 1.2$

C. $E = L - 0.3$ D. $E = \frac{3}{4}L$

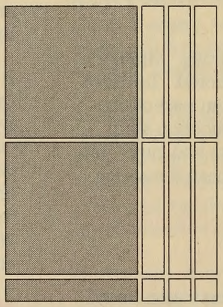
Use the following information to answer question 2.

▨ shaded is positive

☐ unshaded is negative



2. Which product is represented in the diagram below?



A. $(2x - 3)(x + 1)$ B. $(2x + 1)(x - 3)$

C. $(x + 3)(2x - 1)$ D. $(x - 1)(2x + 3)$

3. A traffic light is red for 30 s, green for 25 s, and amber for 5 s in every minute. What is the probability that the colour is amber when a person first sees the traffic light?

A. $\frac{1}{6}$ B. $\frac{5}{12}$

C. $\frac{1}{11}$ D. $\frac{1}{12}$

4. A ladder 10 m long is leaning against a building. The angle between the ladder and the ground is 40°. How far is the top of the ladder from the ground?

The top of the ladder is ______ m from the ground.

Grade 9 Language Arts Standards

Students are expected to be able to:

- use experiences, knowledge of language, and context clues to make meaning from text
- identify, evaluate, and synthesize information from a variety of sources to make informed choices, form opinions, and answer questions
- describe, interpret, and comment on the actions, attitudes, and motives of main characters in grade 9 level literature
- explain how literary elements such as plot, setting, and characterization are interrelated
- identify the techniques used by authors to achieve a desired purpose and sometimes incorporate them into their own writing
- communicate information and ideas effectively in a variety of contexts and for a variety of purposes and audiences

Grade 9 Language Arts Sample Questions

Part A: Writing

The written part of the test has two assignments designed to be completed in two hours. One requires students to read short literary selections and then write a narrative piece or an essay, in response to some aspect of the readings that is identified in the assignment. The second assignment is functional writing. This is usually a business letter, either of invitation or requesting information.

Students' writing is evaluated on what they say and how well they say it. The scoring categories for the narrative/essay writing are content, organization, sentence structure, vocabulary, and conventions (spelling, grammar, and punctuation). Content and organization are weighted to be worth twice as much as each of the other categories. The scoring categories for the letter are content and content management (conventions and format), weighted equally.

Part B: Reading

Read the "The Clippers" below and answer questions 1 to 5.

THE CLIPPERS

—from *The Romance of Sail*

The clippers, the most dramatic of the sailing breed, were of a multiplicity of types and rigs. An early version was the three-masted Baltimore clipper: later came the Blackwell frigates, tall barques, schooners and full-rigged ships. One factor, though, singles out the archetypal clipper–its long, narrow, racing lines. For the clippers depended on speed above all else, even cargo capacity, for their success. Literally, they "clipped" the wind. If a clipper was to be profitable, it had to be faster than its competitors, which by the 1850s included power-ships of increasing reliabilty and greater capacity.

A major event that spurred clipper development came in 1849 when the British Navigation Acts were repealed, so opening up a previously closed-shop trade to all comers. The Americans were quick to assert their interest, and the efficiency of their merchantmen was soon a byword. The year 1849 was also the year of the California gold rush, when it seemed there were never enough ships to carry gold-crazed speculators to San Francisco. Meanwhile, the Far East was fountainhead to a bustling tea trade as well as a less creditable traffic in opium; and, at the same time, the Australian wool trade was expanding. Everything conspired to make the dashing clipper the ideal vessel for the times–so long as it could keep up its own searing pace...97 days from Hong Kong to London; Melbourne to Liverpool in 63 days; Newcastle, New South Wales to Shanghai in 28 days; Foochow to Gravesend, against the monsoon, in 91 days; Boston Light to Liverpool in 13 days, 19 and 1/2 hours; 702 kilometres in a day's run. The mood of the competitors was at times closer to hysteria than commercial enthusiasm, and no ships were driven harder than clippers; many were commanded by rampaging captains and sadistic mates, suitably named Bully This and Bully That.

In the end, it was the desperate search for extra speed that undermined the clippers' position and hastened their demise. To achieve a faster shape, their lines were progressively reduced until they had become overbred for their function: eventually too narrow to carry enough wool or tea for the prices their owners could get, they found their market deserting them. There was no scope for a comeback; the march of steam was irreversible. And so the slender "China birds," the "ghosters," as they had been known in their prime, slid away to extinction.

Michael Leitch

1. The **main** purpose of the first paragraph is to

   A. argue the strengths of the clipper
   B. contrast clippers and steamships
   C. introduce the clipper
   D. list the kinds of clippers

2. The **main** idea in the second paragraph is **best** summed up by

   A. "A major event that spurred clipper development"
   B. "the Far East was fountainhead to a bustling tea trade"
   C. "Everything conspired to make the dashing clipper the ideal vessel for the times"
   D. "The mood of the competitors was at times closer to hysteria than commercial enthusiasm"

3. The author believes that if cargo space had not been sacrificed for speed, the

   A. clipper might still be in use today
   B. clipper's life span would have been no different
   C. clipper's decline would have been more rapid
   D. clipper might have lasted longer

4. At the height of clipper popularity, the **most** important factor about a clipper was its

   A. passenger capacity
   B. speed
   C. cargo capacity
   D. reliability

5. The word "demise" as used in line 37 means

   A. unpopularity
   B. beginning
   C. end
   D. popularity

Grade 9 Science Standards

Students are expected to be able to:

- show how science, technology, and societal/decision making are related
- apply the inquiry skills of questioning, proposing ideas, designing experiments, gathering data, processing data, and interpreting data, to solve problems
- describe the diversity of living things by their characteristics, adaptations, similarities and differences, as well as general features
- describe the characteristics and properties of fluids and explain the application and transfer of forces within hydraulic devices
- apply the knowledge of heat transfer in the examination of technologies for the containment and transfer of heat energy
- apply the principles of basic circuitry to the concept of electrical systems, subsystems, and control devices
- describe the chemical properties of common substances, distinguish between chemical and physical change, and identify the factors that affect reaction rates
- describe the idea of environmental quality and the role of science in monitoring that quality

Grade 9 Science Sample Questions

Use the following information to answer question 1.

Your neighbours show you careful records that they have kept over the past 20 years of different insect populations on their farm. You study the records and infer that:

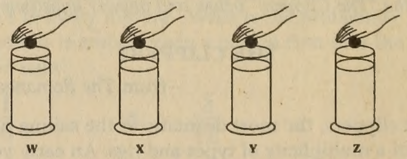
- Many insect species exhibit several distinct adult forms within the same species (polymorphism) and note that each form has adapted for a particular function.
- From 1976 to 1989, your neighbours needed to use a higher concentration of insecticide each year to control the grasshopper population.
- In 1987, there were aphids in the clover crop. You recall that aphids are tiny insects that use the juices from plants for food, and that frequently, aphids cause a reduction in plant growth.

1. The **most** probable reason that your neighbours needed to use a higher concentration of insecticide each year from 1976 to 1989 is that the insects

   A. survived previous applications and passed their resistance on to their offspring
   B. reproduced quickly enough to replace those killed by the insecticide
   C. increased in size and weight
   D. were not affected by the insecticide because it was absorbed into the soil, water, and air

Use the following information to answer question 2.

You find different grades of oil in the garage. You want to test the oil to see which grade will be best for your family's car in the summer. To test the oil, you fill each of four 100-mL cylinders with a different grade of oil. The temperature of the oil in each cylinder is 20°C. You drop a marble into each cylinder and time how long it takes for each marble to reach the bottom of the cylinder. You find the higher the SAE number, the more viscous the oil.



You summarize the data on a table.

Cylinder	Grade of Oil	Time (seconds)
W	SAE 10	0.9
X	SAE 20	1.8
Y	SAE 30	1.9
Z	SAE 40	2.4

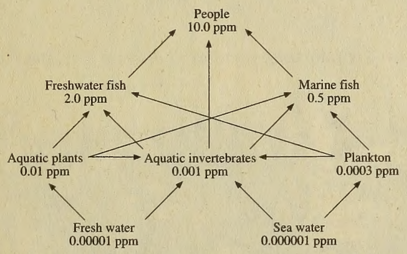
2. The grade of oil that is **most** suitable for a car that will be driven for a long period of time in very hot weather is

A. SAE 10
B. SAE 20
C. SAE 30
D. SAE 40

Use the following information to answer question 3.

You conduct research on the levels of a persistent industrial pollutant in different food chains. You made the following chart showing a food pyramid.

Chart Showing the Concentration of a Persistent Industrial Pollutant



3. The chart shows that the concentration of this industrial pollutant

A. is higher in sea water than it is in fresh water
B. increases with each upward step in the food pyramid
C. decreases with each upward step in the food pyramid
D. is lower in freshwater fish than it is in marine fish

Use the following information to answer numerical-response question 1.

As a research assistant you have received four unknown substances delivered from a police laboratory. You test each substance and record your observations in the table below.

Test	Substance/ Procedure	Observations
W	An unknown white powder is added to a known colourless solution.	Rise in temperature; the solution turned deep purple in colour.
X	An unknown colourless solution is added to a known colourless solution.	Rise in temperature; no change in colour; bubbles of gas.
Y	Another unknown white powder is added to a known colouless solution.	No change in temperature; no change in colour; white powder disappears.
Z	An unknown white solid is heated for one minute.	Solid disappears leaving a colourless liquid; after cooling, a white solid appears.

Numerical Response

1. For each test, write **1** if the observed change is **chemical** and write **2** if the observed change is **physical**.

______ ______ ______ ______
W X Y Z

RECORD YOUR ANSWER IN THE NUMERICAL-REPONSE SECTION OF THE ANSWER SHEET

Grade 9 Social Studies Standards

Students are expected to be able to:

- describe the major types of economies and how each meets the needs of people
- explain how economic growth and technology change affect quality of life
- read and interpret maps to uncover relationships between geography and industrialization in the United States, in the former Soviet Union, and in Canada
- identify and evaluate alternative answers, conclusions, solutions, or decisions concerning issues of economic growth in the United States, in the former Soviet Union, and in Canada
- support a position using persuasive arguments on quality of life in a market, centrally planned, or mixed economy
- communicate effectively with others in formal situations such as interviews and panel discussions on different perspectives of economic growth

Grade 9 Social Studies Sample Questions

1. Which factors needed for industrial growth were present in Great Britain by the late 1700s?

A. A skilled labour force, wealthy entrepreneurs, and enclosed farmland
B. A large labour force, available natural resources, and a market for goods
C. Strong unions, new factories, and inventions in the textile industry
D. Skilled craftsmen, a good transportation system, and available capital

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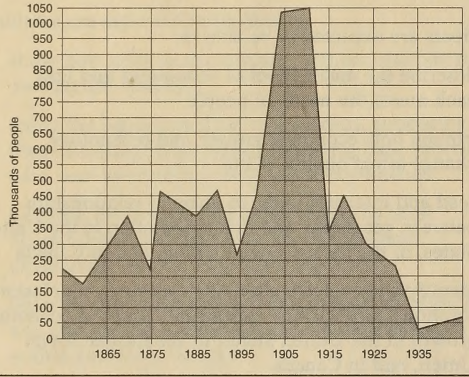
2. As industrialization increased throughout Canada in the early part of this century, a major change was that more Canadians
   - **A.** became dependent on foreign investment
   - **B.** moved from employment in primary to tertiary industry
   - **C.** became dependent on development of natural resources
   - **D.** moved from farms to cities in search of employment

Use the following sources to answer question 3.

Source I

Immigration to the United States, 1860–1935



—from *People, Technology and Change*

Source II

Labour Force in the United States, 1905 – 1955

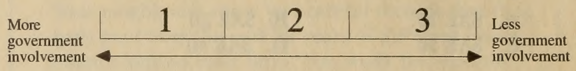
Year	Employed	Unemployed	Unemployment Rate (%)
1905	30 918 000	1 381 000	4.35
1915	36 223 000	3 337 000	8.50
1925	43 716 000	1 453 000	3.20
1935	42 260 000	10 610 000	20.10
1945	52 820 000	1 040 000	1.90
1955	62 170 000	2 852 000	4.40

—from U.S. Bureau of the Census, *Historical Statistics of the United States*

3. The information in the sources supports the conclusion that
   - **A.** immigration rose during periods of high unemployment
   - **B.** immigration declined during periods of high unemployment
   - **C.** small numbers of immigrants were needed to provide skilled labour
   - **D.** large numbers of immigrants were needed to fill jobs created by industry

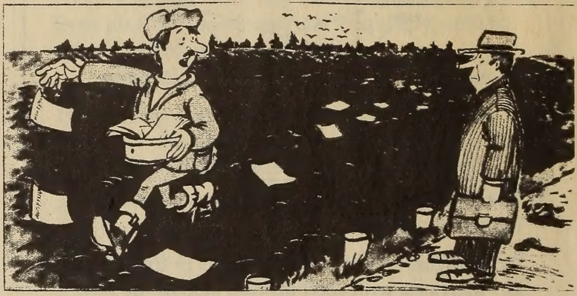
Use the following chart to answer question 4.

Amount of Government Involvement in Economic Decision Making



4. The number 2 represents a
   - **A.** mixed economy
   - **B.** market economy
   - **C.** traditional economy
   - **D.** centrally planned economy

Use the following cartoon to answer question 5.



Farmer to government official: "What am I to do if all I get are instuctions instead of fertilizers and machinery?"

—from *The Soviet Union: History, Culture, Geography*

5. The cartoon humourously illustrates the
   - **A.** lack of seed for planting crops
   - **B.** inefficiency of central economic planning
   - **C.** class difference between peasants and bureaucrats
   - **D.** difficulty of understanding government regulations

Mathematics Answers
1. D
2. B
3. D
4. 6.43

Language Arts Answers
1. C
2. C
3. D
4. B
5. C

Science Answers
1. A
2. D
3. B

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Social Studies Answers
1. B
2. C
3. B
4. A
5. B

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Student Evaluation